

Donglai FAN

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EDUCATION

School of Qiushi Honors College, Tianjin University Major in Electrical Engineering Sept. 2018 - Jun. 2022
Top 1 among 19 students of Qiushi College Top 2 among 192 students Score: 94.4/100 GPA: 3.94/4.0
College of Management and Economics Minor in Engineering Management Mar. 2020 – Jun. 2022

- **Major Courses: 4.0/4.0 for all electrical courses**, Electric Machinery B (100), Fundamentals of Single Chip Microcomputer (99), Theory of Automatic Control (98), Signals and Systems (97), Microcomputer Principle and Interface Technology (97), Fundamental Digital Electronic Technique (97), Fundamentals of Power System (96), Power Electronics Technology (96), Electric Machinery A (96), Fundamental Theory of Circuit (95), etc.
- **Dual Degree Courses:** Economics, Engineering Economics, Project Management, Operations Research, Accounting, Fundamentals of International Engineering Law, etc.
- **Personal Skills:** 607 points in English CET-6, with reading and writing ability of English literature
A solid foundation in mathematics, **with a score of 90+ for all mathematics classes**, Mathematical Equations (100), Advanced Mathematics B (98), Probability Theory & Mathematical Statistics (98), Numerical Computation Method (98), Advanced Mathematics A (96), etc.
Master programming languages such as C++, Python (excellent in National Computer Rank Examination), and be able to use Matlab, PyCharm, Keil, Proteus, LabVIEW, etc.

AWARDS

- Nominated for outstanding student models of Tianjin University (the highest scholarship honor for Tianjin University students, 15 undergraduates, masters and PhD each year)
- National Scholarship for two consecutive years (the first place in the comprehensive evaluation, top 0.2%)
- The first place in the top ten outstanding youth competition of Qiushi Honors College (the youngest participant)
- 26 school-level and above honors including Outstanding Student Honor (2%), Science and Technology Excellence Honor, Merit Student Honor, Outstanding Student Leader Honor, etc.

RESEARCH EXPERIENCES

Online Regulation Technology and Device of Integrated Energy System Based on Adaptive Lifelong Learning

- Joined the research group of Professor Mu Yunfei of Tianjin University, conducted literature research on integrated energy system, established an integrated energy system mechanism-data hybrid driven model, realized the collaborative optimization of heating network, power grid, and gas network, and determined the steady-state operating boundary of the mechanism model through Simulink simulation
- The project closely followed the national development strategy of "Carbon Peak" and "Carbon Neutrality". The research results that have been obtained have successfully applied for college students' innovation and entrepreneurship training projects at the national level and won the second prize of the "Challenge Cup" extracurricular scientific and technological academic works competition of Tianjin University

Design of Wireless Motion Sensor Based on STM32

- Joined Professor Tang Chen's laboratory of Tianjin University, based on ADS1292 chip, MPU-6050 chip and other modules to realize the measurement of heart rate, steps, body temperature and other sports indicators, and realized the synchronization of each module through STM32 MCU interrupt processing method
- Based on the digital signal collected by A/D conversion of STM32, used Matlab to fit the digital signal-measured value function curve and obtained the expression, transmitted the measurement data through the ESP8266wifi module, and finally displayed the measurement results through LCD1602

Data Attack Identification and Information Security Defense of Distribution Network Based on PMU

- Joined Professor Zhao Jinli's laboratory to conduct research on the identification of false data attacks on smart distribution network, and participated in research on security defense of the cyber-physical system

- As the leader of the student group, organized members to hold group meetings on a regular basis, actively connected with teachers, and mainly responsible for the establishment of the FDIA model of the distribution network

The Development Status of Our Country's Green Finance

- Participated in the project of Professor Wang Xiuqin of the College of Management and Economics, conducted research on domestic and foreign green finance, and participated in two reports as a student representative
- In view of the current development status of renewable energy, combined with my own background in science and engineering, explored the development trend of our country's energy and the prospect of green finance

SCIENCE AND TECHNOLOGY COMPETITION

- The first prize of Tianjin Mathematics Competition, the third prize of National College Student Mathematics Competition, the second prize of Tianjin Physics Competition
- The first prize of Tianjin University Challenge Cup, the first prize of TJUPT, Tianjin University Physics Tournament, the second prize of "The Next Thirty Years" Innovation Competition

Research on the Intelligent Health Detection System Based on Computer Vision Feb.2020 – Jun.2020

- Won the first prize in the "Challenge Cup" extracurricular scientific and technological academic works competition of Tianjin University, focused on the hot social issues of the aging of the population and the elderly living at home
- Realized the human expression and posture recognition module, and gave a report on behalf of our team

Magnetic Levitation Oct.2019 – Jan.2020

- The first prize of the Tianjin University Physics Tournament, as the team leader, designed experiments and realized the theoretical explanation of the experimental phenomenon by consulting the literature
- Quantified the dynamic balance analysis of the magnetic stirrer in the fluid, and explored the influence of driving angular velocity, fluid viscosity and other factors on the movement of the stirrer through experiments

Mechanisms and Data Driven Hybrid (MDDH) Food System Model Feb.2021

- As the team leader, participated in Mathematical Contest In Modeling in 2021, successfully passed the school selection and represented Tianjin University as one of the thirty teams
- Established a food system model driven by a mixture of mechanism and data, applied the concept of the energy hub to the analysis of the food system, comprehensively considered the interaction of factors such as technology and policy, and realized the evaluation of the sustainability and equity of the food system

LEADERSHIP EXPERIENCES

Deputy Director of Tianjin University Student Party School Jun.2019 – Apr.2021

- Participated in student party building work, responsible for 8 training sessions for party applicants, 4 for preparatory party members, and trained a total of more than 10,000 student party members

Head teacher for freshmen of the college, monitor Sept.2018 - Now

- Organized freshman week activities, help more than 300 students complete the transition of university life, made overall plans for class activities, won the first prize of class appraisal and was awarded as "a good monitor"

Members of the practice team of Qiushi Honors College Sept.2018 - Now

- Won the "Excellent Practice Team of Tianjin Province", went to eight provinces and cities such as Jinggangshan in Jiangxi Province, planned the itinerary of our team and was responsible for media publicity such as video editing

SKILLS AND INTERESTS

- **Professional Skills:** Electrical Engineering (major), Engineering Management (the only student in our department who got the qualification for dual degree in Engineering Management)
- **Language Skills:** Chinese (native), English
- **Hobbies:** Volleyball (served as the setter and the captain of the college volleyball team), Reading, Photography, Calligraphy, Sketch